

10/578602

1AP20Rec'd PCT/PTO 08 MAY 2006

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

Applicant: Steffen Hardt

International Application No.: PCT/EP2004/012650

International Filing Date: 09 November 2004

For: METHOD FOR SEPARATING CHEMICAL
SUBSTANCES AND/OR PARTICLES, DEVICE AND
USE THEREOF

Date: May 8, 2006

Mail Stop PCT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

This invention relates to electric fields applied parallel to and/or vertical to the interfaces on adjacent microfluid lamellae made of nonmiscible media containing said biomolecules and bioparticles to which they have different physico-chemical affinities in order to separate biomolecules and bioparticles and the biomolecules and bioparticles are electrophoretically separated.

As authorized and encouraged under 37 C.F.R. §1.97-1.99, applicant hereby cites as a means of complying with the duty of disclosure set forth in 37 C.F.R. §1.56, the following patents and/or documents, required copies enclosed, which the Examiner should consider with respect to the above-identified United States Patent Application:

FOREIGN DOCUMENTS		
PATENT/DOCUMENT NO.	DATE	COUNTRY
37 42 292	06/01/1989	DE
00/22428	04/20/2000	WIPO
199 30 253	12/28/2000	DE
694 27 690	05/02/2002	DE
100 63 096	09/12/2002	DE
101 13 257	11/14/2002	DE
03/066191	08/14/2003	WIPO
1 353 172	10/15/2003	EP
OTHER PRIOR ART/ARTICLE		
C.W. Theos et al., <i>Electroextraction Two-Phase Electrophoresis, Applied Biochemistry and Biotechnology</i> , Vol. 54, (1995), pp. 143-157.		
S. Devasenathipathy, et al., <i>Electrokinetic Particle Separation</i> , 7 th International Conference on Miniaturized Chemical Biochemical Analysis Systems, October 5-9, 2003, pp. 845-848.		
T. Herveck, et al., <i>Visualization of Flow Patterns and Chemical Synthesis in Transparent Micromixers</i> , Microreaction Technology, Proceedings of the Fifth International Conference on Microreaction Technology, 2001, pp.215-229.		
V. Reddy, et al., <i>Organic/Aqueous Two Phase Microflow for Biological Sample Preparation</i> , 7 th International Conference on Miniaturized Chemical and Biochemical Analysis Systems, October 5-9, 2003, pp. 437-440.		
C.-L. Liu, et al., <i>Partitioning of Proteins Using Two-Phase Aqueous Surfactant Systems</i> , AIChE Journal, April 1995, Vol. 41, No. 4, pp.991-995.		
V.G. Gaikar, et al., <i>The Effect of Surface Active Additives on the Partitioning of Proteins and Enzymes in Aqueous Two-Phase Systems</i> , J. Chem. Tech. Biotechnol. , 1996, Vol. 67, pp. 329-332.		
D. Raymond, et al., <i>Continuous Sample Pretreatment Using a Free-Flow Electrophoresis Device Integrated onto a Silicon Chip</i> , Analytical Chemistry, 1994, Vol. 66, No. 18, pp. 2858-2864, XP-000478030.		
F. Hachem, et al., <i>Hydrophobic Partitioning of Proteins in Aqueous Two-Phase Systems</i> , Enzyme and Microbial Technology, Vol. 19, 1996, pp. 507-517, XP-002316648.		

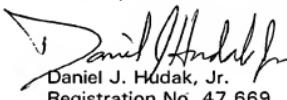
10/578602
1AP20Rec'd PCT/PTO 08 MAY 2006

In accordance with 37 CFR 1.98(a)(2)(i) only the foreign and non-patent documents are required for the express purpose of providing the Patent and Trademark Office with an ample opportunity to evaluate the same and to arrive at an independent assessment of its materiality, if any, with regard to the examination of the application.

An examination of the present application considering the above documents is requested.

Respectfully submitted,

HUDAK, SHUNK & FARINE CO. LPA



Daniel J. Hudak, Jr.
Registration No. 47,669

DJHjr/lb
2020 Front Street
Suite 307
Cuyahoga Falls, OH 44221-3257
(330) 535-2220
Attorney Docket No.: FMW-CP-PCT-US

AP20 Rec'd PCT/PTO 08 MAY 2006

Sheet 1 of 3

Form PTO-1449 U.S. Department of Commerce Patent and Trademark Office			Atty. Docket No.: FMW-CP-PCT-US	Serial No.: 10578602			
LIST OF PRIOR ART CITED BY APPLICANT (Use several sheets if necessary)			Applicant: Steffen Hardt				
			Filing Date: May 8, 2006	Group:			
U. S. PATENT DOCUMENTS							
Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing date if appropriate
AA							
AB							
AC							
AD							
AE							
AF							
AG							
AH							
AI							
AJ							
AK							
FOREIGN PATENT DOCUMENTS							
		Document Number	Date	Country	Class	Subclass	Translation Yes No
AL		37 42 292	06/01/1989	DE			
AM		00/22428	04/20/2000	WIPO			
AN		199 30 253	12/28/2000	DE			
AO		694 27 690	05/02/2002	DE			
AP		100 63 096	09/12/2002	DE			
OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)							
	AR		C.W. Theos et al., <i>Electroextraction Two-Phase Electrophoresis, Applied Biochemistry and Biotechnology</i> , Vol. 54, (1995), pp. 143-157.				
	AS		S. Devasenathipathy, et al., <i>Electrokinetic Particle Separation</i> , 7 th International Conference on Miniaturized Chemical Biochemical Analysis Systems, October 5-9, 2003, pp. 845-848.				
	AT		T. Herweck, et al., <i>Visualization of Flow Patterns and Chemical Synthesis in Transparent Micromixers, Microreaction Technology</i> , Proceedings of the Fifth International Conference on Microreaction Technology, 2002, pp.215-229.				
EXAMINER /Jennifer Dieterle/			DATE CONSIDERED		08/26/2010		
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.D./

IAP20 Rec'd PCT/PTO 08 MAY 2006

Sheet 2 of 3

Form PTO-1449 U.S. Department of Commerce Patent and Trademark Office			Atty. Docket No.: FMW-CP-PCT-US	Serial No.: 201578602			
LIST OF PRIOR ART CITED BY APPLICANT (Use several sheets if necessary)			Applicant: Steffen Hardt				
			Filing Date: May 8, 2006	Group:			
U.S. PATENT DOCUMENTS							
Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing date if appropriate
AA							
AB							
AC							
AD							
AE							
AF							
AG							
AH							
AI							
AJ							
AK							
FOREIGN PATENT DOCUMENTS							
		Document Number	Date	Country	Class	Subclass	Translation Yes No
AL		101 13 257	11/14/2002	DE			
AM		03/066191	08/14/2003	WIPO			
AN		1 353 172	10/15/2003	EP			
AO							
AP							
OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)							
	AR	V. Reddy, et al., <i>Organic/Aqueous Two Phase Microflow for Biological Sample Preparation</i> , 7 th International Conference on Miniaturized Chemical and Biochemical Analysis Systems, October 5-9, 2003, pp. 437-440.					
	AS	C.-L. Liu, et al., <i>Partitioning of Proteins Using Two-Phase Aqueous Surfactant Systems</i> , AIChE Journal, April 1995, Vol. 41, No. 4, pp. 991-995.					
	AT	V.G. Gaikar, et al., <i>The Effect of Surface Active Additives on the Partitioning of Proteins and Enzymes in Aqueous Two-Phase Systems</i> , J. Chem. Tech. Biotechnol., 1996, Vol. 67, pp. 329-332.					
EXAMINER		/ Jennifer Dieterle/		DATE CONSIDERED		08/26/2010	
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.D./

AP20 Rec'd PTO 08 MAY 2006

Sheet 3 of 3

Form PTO-1449 U.S. Department of Commerce Patent and Trademark Office			Atty. Docket No.: FMW-CP-PCT-US	Serial No.: 10578602			
LIST OF PRIOR ART CITED BY APPLICANT (Use several sheets if necessary)			Applicant: Steffen Hardt				
			Filing Date: May 8, 2006	Group:			
U. S. PATENT DOCUMENTS							
Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing date if appropriate
AA							
AB							
AC							
AD							
AE							
AF							
AG							
AH							
AI							
AJ							
AK							
FOREIGN PATENT DOCUMENTS							
		Document Number	Date	Country	Class	Subclass	Translation Yes No
AL							
AM							
AN							
AO							
AP							
OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)							
AR		D. Raymond, et al., <i>Continuous Sample Pretreatment Using a Free-Flow Electrophoresis Device Integrated onto a Silicon Chip</i> , Analytical Chemistry, 1994, Vol. 66, No. 18, pp. 2858-2864, XP-000478030.					
AS		F. Hachem, et al., <i>Hydrophobic Partitioning of Proteins in Aqueous Two-Phase Systems</i> , Enzyme and Microbial Technology, Vol. 19, 1996, pp. 507-517, XP-002316648.					
AT							
EXAMINER		DATE CONSIDERED			08/26/2010		
/Jennifer Dieterle/							
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.D./